

WHAT IS CLAIMED IS:

1. A mirrored storage system for transcribing data from a storage consumer, said system comprising:

- (a) a primary site, and a remote site;
- (b) a communication link coupling said primary site to said remote site;
- (c) said primary site having an input coupled to the storage consumer for receiving data from the storage consumer, and said primary site including a primary controller and a primary storage device, said controller being operable for transcribing the data received from the storage consumer to said primary storage device, and said controller being operable for transmitting data to said remote site via said communication link;
- (d) said remote site having a remote controller and a remote storage device, and said remote controller being coupled to said communication link, and said remote controller being operable for receiving data transmitted by said primary controller and transcribing said received data to said remote storage device;
- (e) said communication link comprising a plurality of redundant communication paths, and said primary controller being operable to transmit a copy of the data received from the storage consumer on each of said redundant communication paths.

2. The mirrored storage system as claimed in claim 1, wherein said primary controller is operable to generate a data transfer acknowledgement for the storage consumer after transcribing the received data to said primary storage device.

3. The mirrored storage system as claimed in claim 2, wherein said remote controller is operable to generate a transaction report for said primary storage controller after receiving the data transmitted by said primary controller.

4. The mirrored storage system as claimed in claim 3, wherein said primary site includes a temporary storage device, said primary controller being operable to transcribe the data received from the storage consumer to said temporary storage device.

5. The mirrored storage system as claimed in claim 3, wherein said secondary storage device comprises a permanent storage device.

6. The mirrored storage system as claimed in claim 1, wherein said remote controller is operable to reconcile said copies of data transmitted by said primary controller and detect errors in any of said copies of data, and in response to a detected error issue an error message for said primary controller.

7. The mirrored storage system as claimed in claim 6, wherein said primary controller is operable to retransmit the data to said remote site in response to said error message.

8. The mirrored storage system as claimed in claim 6, wherein said primary controller is operable to generate a data transfer acknowledgement for the storage consumer after transcribing the received data to said primary storage device.

9. The mirrored storage system as claimed in claim 1, wherein said communication link comprises a first communication path and a second communication path, said first and second communication paths being independent of each other.

10. The mirrored storage system as claimed in claim 9, wherein said first communication path is oriented in direction opposite to said second communication path.

11. A method for transcribing data from a storage consumer in a mirrored storage system, said method comprising the steps of:

providing a primary site and a secondary site, said primary site having a controller and a primary storage device, and said secondary site having a controller and a secondary storage device, and coupling said primary site and said secondary site with a communication link, said communication link being provided with a plurality of redundant communication paths;

receiving data from the storage consumer at said primary site, and transcribing the received data to said primary storage device;

transmitting a copy of said received data on each of said redundant communication paths to said secondary site;

receiving the transmitted copies of the data at said secondary site, and transcribing the data to said secondary storage device.

12. The method as claimed in claim 11, further including the step of generating a data transfer acknowledgement for the storage consumer after transcribing the received data to said primary storage device.

13. The method as claimed in claim 12, wherein said step of receiving the transmitted copies of the data at said secondary site includes reconciling the copies of the data and issuing an error report for the controller at said primary site if an error is detected in the data.

14. The method as claimed in claim 12, further including the step of generating a transaction report for the controller at said primary site after receiving the data at said secondary site.

15. The method as claimed in claim 14, wherein said step of receiving the transmitted copies of the data at said secondary site includes reconciling the copies

of the data and issuing an error message in said transaction report if an error is detected in the data.

16. The method as claimed in claim 15, further including the step of retransmitting the data from the primary site in response to a transaction report having an error message.

17. The method as claimed in claim 13, wherein said step of reconciling includes checking each of said copies of data for errors and voting for the copy of data to be transcribed to said secondary storage device.

18. A remote primary storage system for storing data from a storage consumer, said system comprising:

- (a) a primary site, and a remote site;
- (b) a communication link coupling said primary site to said secondary site;
- (c) said primary site having an input coupled to the storage consumer for receiving data from the storage consumer, and said primary site including a primary controller and a temporary storage device, said primary controller being operable for transcribing the data received from the storage consumer to said temporary storage device, and said primary controller being operable for transmitting data to said remote site via said communication link;
- (d) said remote site having a remote controller and a storage device, and said remote controller being coupled to said communication link, and said remote controller being operable for receiving data transmitted by said primary controller and transcribing said received data to said storage device;
- (e) said communication link comprising a plurality of redundant communication paths, and said primary controller being operable to

transmit a copy of the data received from the storage consumer on each of said redundant communication paths.

19. The remote primary storage system as claimed in claim 18, wherein said primary controller is operable to generate a data transfer acknowledgement for the storage consumer after transcribing the received data to said primary storage device.

20. The remote primary storage system as claimed in claim 19, wherein said secondary controller is operable to generate a transaction report for said primary storage controller after receiving the data transmitted by said primary controller.

21. The remote primary storage system as claimed in claim 20, wherein said primary site includes a temporary storage device, said primary controller being operable to transcribe the data received from the storage consumer to said temporary storage device.

22. A multiple mirrored storage system for transcribing data from a storage consumer, said system comprising:

- (a) a primary site, a first remote site and a second remote site;
- (b) a first communication link coupling said primary site to said first remote site;
- (c) a second communication link coupling said primary site to said second remote site;
- (d) said primary site having an input coupled to the storage consumer for receiving data from the storage consumer, and said primary site including a primary controller and a primary storage device, said controller being operable for transcribing the data received from the storage consumer to said primary storage device, and said controller being operable for transmitting data to said first remote site via said first

communication link and to said second remote site via said second communication link;

- (e) said first remote site having a controller and a storage device, and said controller being coupled to said first communication link, and said controller being operable for receiving data transmitted by said primary controller over said first communication link and transcribing said received data to said storage device;
- (f) said second remote site having a controller and a storage device, and said controller being coupled to said second communication link, and said controller being operable for receiving data transmitted by said primary controller over said communication link and transcribing said received data to said storage device;
- (g) said communication links comprising a plurality of redundant communication paths, and said primary controller being operable to transmit a copy of the data received from the storage consumer on each of said redundant communication paths.

23. The mirrored storage system as claimed in claim 22, wherein said primary controller is operable to generate a data transfer acknowledgement for the storage consumer after transcribing the received data to said primary storage device.

24. The mirrored storage system as claimed in claim 23, wherein the controllers at said first remote site and said second secondary controller are operable to generate a transaction report for said primary storage controller after receiving the data transmitted by said primary controller.